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Hospitalizations for Ambulatory Care Sensitive Conditions

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Hospital inpatient care is utilized to treat the most severe conditions of disease, illness and injury. With appropriate ambulatory care, some hospitalizations for certain conditions, called ambulatory care sensitive conditions (ACSCs), are believed to be avoidable. Taken together, ACSC hospitalizations were estimated to account for 3.1 million hospitalizations nationwide, representing 12% of all hospitalizations in 1990.[1] Selected results from an analysis of the burden of ACSC hospitalizations in Rhode Island are presented here.

Methods. Acute-care general hospitals in Rhode Island have been reporting patient-level data for every patient discharged since October 1, 1989, as required by licensure regulations. The data items reported for each patient include demographics and clinical data coded to the International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM).[2]

Consistent with reports produced by the state of Massachusetts based on conditions originally compiled by Billings, this analysis examined discharges with any of 24 conditions defined as ACSC.[3,4,5] (Table 1) Specific definitions of the ACSCs are available upon request. Hospitalizations for ACSCs cannot be avoided in all instances. The extent to which these hospitalizations are preventable varies by condition, general health status and other factors. In this analysis, "self-pay" as the expected source of payment was used as a proxy for uninsured. This analysis is limited to Rhode Island residents discharged from Rhode Island hospitals during 2001- 2003, excluding newborn infants.

Results. On average, more than 19,000 ACSC hospitalizations occur each year, representing 17% of all discharges among Rhode Island residents and accounting for 12% of the total billed charges for inpatient care. (Table 2) Of the 57,749 ACSC discharges during 2001-03, 1,839 (3.2%) were uninsured.

ACSC discharges as a percent of total discharges increased with age, with the exception of the 0-17 years age group, whose proportion was almost as great as for the oldest age group. (Table 2) For the two extreme age groups, almost one quarter of all hospitalization are for ACSCs.

The percent of ACSC hospitalizations for patients without insurance was greater than for patients with insurance for all age groups. The difference between the two populations decreased with age and ranged from 8.8 percentage points among those ages 18 – 34 to 1.3 percentage points for those age 65 and older. (Figure 1) For all ages combined, the percentage of ACSC discharges was greater for the insured than the uninsured; this anomaly is due to the different age distributions of the insured and uninsured populations.

Table 1.
Ambulatory Care Sensitive Conditions (ACSCs)

Medical Condition
Angina
Asthma
Bacterial pneumonia
Cellulitis
Chronic obstructive pulmonary disease
Congenital syphilis
Congestive heart failure
Convulsions
Dehydration
Diabetes
Failure to thrive
Gastroenteritis
Grand mal status and other epileptic convulsions
Hypertension
Hypoglycemia
Immunization related and preventable conditions
Invasive cervical cancer
Iron deficiency anemia
Kidney/urinary infection
Nutritional deficiencies
Other tuberculosis
Pelvic inflammatory disease
Pulmonary tuberculosis
Severe ear, nose and throat infections

The most common specific ACSCs among discharges during 2001-2003 varied by age, with congestive heart failure, bacterial pneumonia and chronic obstructive pulmonary diseases ranked highest overall and together accounting for over half (55%) of all ACSCs. (Table 3) Bacterial pneumonia was a leading condition for most age groups, while asthma ranked highest among the younger age groups only. The most common ACSCs also varied by insurance status. Most notably, diabetes, cellulitis and asthma were leading conditions for the uninsured population overall, but ranked much lower for the insured population.

Table 2.

Total Discharges, Ambulatory Care Sensitive Conditions (ACSC) Discharges and ACSC Discharges as Percent of Total Discharges, by Age Group, Rhode Island Residents, 2001- 2003

Age Group	Number of Total Discharges	Number of ACSC Discharges	Percent ACSC of Total Discharges
0 - 17 Years	24,976	5,627	22.53%
18 - 34 Years	58,616	3,084	5.26%
35 - 44 Years	40,356	3,513	8.71%
45 - 54 Years	38,185	5,012	13.13%
55 - 64 Years	37,188	6,237	16.77%
65 Years & Older	148,419	34,274	23.09%
All Patients	347,761	57,749	16.61%

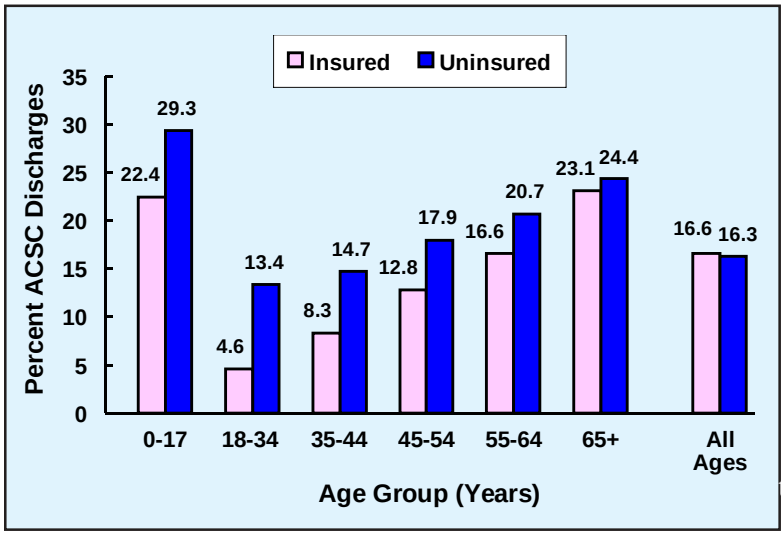

Figure 1. *Discharges for Ambulatory Care Sensitive Conditions (ACSCs) as Percent of All Discharges, by Age Group and Insurance Status, Rhode Island Residents, 2001 – 2003.*

Table 3.

Leading Ambulatory Care Sensitive Conditions by Age Group, Rhode Island Residents, 2001 – 2003

Age Group	Rank 1	Rank 2	Rank 3
0 - 17 Years	Asthma	Dehydration	Bacterial Pneumonia
18 - 34 Years	Asthma	Diabetes	Kidney/urinary infection
35 - 44 Years	Bacterial Pneumonia	Cellulitis	Asthma
45 - 54 Years	Bacterial Pneumonia	Chronic Obstructive Pulmonary Diseases	Cellulitis
55 - 64 Years	Chronic Obstructive Pulmonary Diseases	Congestive Heart Failure	Bacterial Pneumonia
65 Years & Older	Congestive Heart Failure	Bacterial Pneumonia	Chronic Obstructive Pulmonary Diseases
All Patients	Congestive Heart Failure	Bacterial Pneumonia	Chronic Obstructive Pulmonary Diseases

Discussion. Hospitalizations for ACSCs comprise a large proportion of all inpatient care in Rhode Island, both among the insured and uninsured populations, and they account for an even greater proportion among those who are young and uninsured. The most commonly occurring specific ACSCs are different for patients of different age groups and for patients with and without health care coverage.

The rate of hospitalizations for ACSCs has been suggested as an indicator of the access to and the quality of the ambulatory care system serving the populations from which these inpatient discharges are drawn.[1] On that basis, this analysis demonstrates that many of the uninsured may lack access to high quality ambulatory care. Further analysis, e.g., by geographic area, by specific type of health care coverage, by socioeconomic status, by gender, by race and ethnicity, etc., may help identify other specific populations in Rhode Island with less than optimal ambulatory care.

Additionally, the overall volume of hospitalizations for ACSCs represents, in whole or part, a potentially avoidable burden on the state's health care system. Eliminating even a portion of these hospitalizations could free substantial resources for other health care services or even reduce the costs of health care coverage to employers, governments, and individual subscribers. These benefits would accrue in addition to the health benefits to those whose medical conditions were treated or controlled before progressing to a level of severity requiring hospital inpatient care.

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